NEW SOURCE REVIEW REFORM RULE UPDATE

DIVISION OF AIR QUALITY

STAKEHOLDER MEETING 2

PSD AND NON-ATTAINMENT AREA

RULE CHANGES

Utah Department of Environmental Quality

Division of Air Quality

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Salt Lake City, Utah

NSR REFORM RULE – SCOPE

Title IV
Acid Rain

Title VI Stratospheric
Ozone

New Source
Performance Standards
(NSPS) Section 111

Title V Operating
Permits

REFROM CHANGES

NEW SOURCE REVIEW PROGRAMS:

A. Prevention of Significant Deterioration (PSD)

B. Non-Attainment Major Source Review

State SIP
Requirements

State Minor
Source Permits

National Emission Standards
for Hazardous Air Pollutants
(NESHAP) Section 112

1990 List and MACT Standards

National Ambient Air
Quality Standards
(NAAQS)

NSR REFORM PROGRAMS

- New Definition of a Major Modification
  - Pre Project-Emissions: Baseline Actual Emissions
  - Post Project-Emissions: Projected Actual Emissions
  - Applicability Test: Baseline Actual to Projected Actual (A2A)
- Plant-wide Applicability Limits (PAL)
- Clean Unit Exemption (CU)
- Pollution Control Project (PCP)
- Equipment Replacement Provision (ERP)

IMPLEMENTATION BY STATES

- For delegated States, new rules become effective March 3, 2003. 60 days from publication in the Federal Register. California, Hawaii, District of Columbia, Illinois, Massachusetts, Michigan, Minnesota, Nevada, New Jersey, New York, South Dakota, and Washington.
- For SIP-approved States, rule changes due within 3 years from publication in Federal Register. Deadline Implementation date January 2, 2006.

MAJOR SOURCE

- Major New Source Thresholds:
  - Potential to Emit (PTE) Greater than 100 TPY for 28 Listed Industries
  - PTE Greater than 250 TPY for all other Industries.

MAJOR MODIFICATION

- Any Physical Change, or Change in Method of Operation Of a Major Source That would Result in a Significant and Significant Net Emissions Increase of a Regulated NSR Pollutant.

MAJOR SOURCE SIGNIFICANCE THRESHOLDS

POLLUTANT	QUANTITY (TPY)
SO_2	40
NO_X	40
CO	100
PM_{10}	15
PM	25
VOC	40
LEAD	0.6
SULFURIC ACID MIST	7
HYDROGEN SULFIDE	10
TOTAL REDUCED SULFUR	10
REDUCED SULFUR COMPOUNDS	10

MAJOR MODIFICATION-EXCLUSIONS

- ANY Physical or Operational Change-Exemptions:
  - Current Rules:
    - Routine Maintenance, Repair, and Replacement (RMRR) (Case by Case)
    - Use of Alternative Fuels
    - Pollution Control Projects at an Electric Power Plant
    - Emissions associated with Increased Utilization, which are within Permitted Limits.
  - Reform Rule Additional Exemptions:
    - Clean Units
    - Pollution Control Projects for non-utility Industries
    - Changes made under a PAL Permit
    - Equipment Replacement Provision of RMRR

APPLICABILITY TEST – MAJOR MODIFICATIONS

- Actual to Potential Test (Current and new unit approach)
  - Comparison of actual emissions to future potential emissions
- Baseline Actual to Projected Actual Test (Reform and existing unit approach)
  - Comparison of past actual to future actual emissions

BASELINE ACTUAL EMISSIONS (PAST EMISSIONS)

- Traditional Method "Actual Emissions" Average of the annual emissions for the two-year period preceding the Project
  - Reviewing authority may permit an alternate time that is more representative of normal operations
- New Method "Baseline Actual Emissions": Any consecutive two-year period in the last 10 years (2/10)
- Electrical Power Industry: Any consecutive two-year period in the last 5 years (2/5)

BASELINE ACTUAL EMISSIONS (PAST EMISSIONS) RESTRICTIONS

- Adjust to reflect current emissions control requirements
- Reduce for any emissions that exceed permitted allowable emissions
- Adequate data required for selected time period
- Same 24 month period for all emission units in the project

USE BASELINE ACTUAL EMISSIONS

- Baseline Actual Emissions will be used for:
  - Emissions increases resulting from a project.
  - Computing contemporaneous emissions increases
  - Computing a PAL cap.
- Actual Emissions (Current Rule) will be used for:
  - Conducting Air Quality analyses (NAAQS, PSD increments, AQRVs)
  - Computing required NAA offsets

PROJECTED ACTUAL EMISSIONS
POST-CHANGE EMISSIONS PROJECTION

- Current Method “Potential to Emit”: The maximum capacity of a stationary source to emit a pollutant under its physical and operational design.

- New Method “Projected Actual”: Expected Actual Maximum one year emissions from the 5 or 10-years period after the Project.
  - Demand Growth Excluded

POLLUTION CONTROL PROJECTS (PCP)

- A PCP exclusion allows a project, at an existing facility, that reduces primary emissions to avoid major NSR review when secondary or collateral emissions are greater than significance thresholds.
  - Example: Exemption from NSR Review for a Significant Increase of NO_x at the installation of VOC Oxidation Project.

WHAT PROJECTS QUALIFY FOR A PCPs

- To qualify for the exclusion an activity must pass two tests:
  - Environmentally beneficial test – Show that primary benefits outweigh emissions increases
  - Air Quality Test- Show that the project will not cause or contribute to NAAQS or PSD increment violations or adversely impact Class I areas.
- LISTED PROJECTS. Any project on the EPA's list of pre-approved projects. Projects that are per-screened as environmentally beneficial.
- UNLISTED PROJECTS. Projects approved, on a case by case basis, by a regulatory authority.

ENVIRONMENTALLY BENEFICIAL POLLUTION CONTROL PROJECTS

CONTROL DEVICE	POLLUTANT CONTROLLED
Flue Gas Desulfurization	SO_2
Sorbent Injection	SO_2
Electrostatic Precipitators	Particulates & Others
Baghouses	Particulates & Others
High Efficiency Multiclones	Particulates & Others
Scrubbers	Particulates & Others
Flue Gas Recirculation	NOx
Low Nox Burners	NOx
Low Emission Combustion	NOx
Oxidation/Adsorption Catalyst	NOx
Regenerative Thermal Oxidizers	VOC/HAP
Catalytic Oxidizers	VOC/HAP
Hydrocarbon Combustion Flares	VOC/HAP
Condensers	VOC/HAP
Absorbers & Adsorbers	VOC/HAP
Biofiltration	VOC/HAP
Floating Roofs (Storage Vessels)	VOC/HAP

TYPES OF PCP PROJECTS

A. Add-on Pollution Control Devices.
B. Fuel and Raw Material Changes.
C. Work Practices & Process Changes.
D. Pollution Prevention Projects.
E. Replacement, Reconstruction, or Modification of and Existing Emissions Control Technology.
F. Changes to Less Potent Quantities of ODS.

CLEAN UNIT EXEMPTION

- Clean Unit Exemption allows emission units that install BACT/LAER emission control equipment to make physical or operational changes without triggering NSR.
- The exclusion is only applicable if the changes to the emissions unit do not alter the physical or operational characteristics that formed the basis of the BACT or LAER determination.

WHAT QUALIFIES AS A CLEAN UNIT?

- Clean Unit Status is automatic for most emissions units that went through major NSR and are complying w/BACT/LAER.
- Clean Unit Status can be granted through a permitting process if the emissions control is:
  - Comparable to BACT/LAER; or
  - Substantially as effective as BACT/LAER.
- Emissions controls can be add-on controls; pollution prevention; or work practices, but an investment in the control is required to qualify.
- Clean Unit status available for up to 10 years after applying emission controls.

CLEAN UNITS - TITLE V PERMIT & NON-ATTAINMENT

- Clean Unit Information Required in a Title V Permit:
  - The Clean Unit Designation effective date, and expiration date. If effective date is not known the permit will describe the event that will set the effective date.
  - A description of all emission limitations, work practice standards, and physical or operational requirements that formed the basis of the BACT determination.
  - Operator requirements to maintain the Clean Unit Designation and the consequences of failing to do so.

NON-ATTAINMENT AREAS CLEAN UNIT STATUS

- Clean Unit Status can be obtained in and non-attainment area
- A Major Source Permit in a Non-Attainment Area would qualify the unit for Clean Unit Exemption.
- All other Non-Attainment Area requirements, such as RACT, apply to the Unit.
- Clean Units in areas that undergo a change in designation from Attainment to Non-Attainment maintain Clean Unit Status until they lose the status or the effective period is over.
- The determination of “substantially as effective” must consider only LAER determinations.

PLANT-WIDE APPLICABILITY LIMITS (PAL)

- A PAL is an Alternative approach for determining major NSR Applicability
- Sources that agree to operate within facility wide emissions caps will be given the flexibility to modify their operations without undergoing NSR.
- A PAL is Pollutant-Specific and has a 10-year Term

PAL EMISSION CAP CALCULATION

- EXISTING UNITS
  - A PAL Emission level is calculated per pollutant, by summing the baseline actual emissions for each Emission Unit (EU) at an existing source
- NEW UNITS
  - A new EU (not in operation two years or more) will add the units Potential to Emit (PTE) to the baseline actual totals
- UNITS OUTSIDE THE 24 MONTH BASELINE PERIOD
  - For an any EU constructed after the baseline period emissions equal to PTE are added to the PAL Cap

INCREASING A PAL

- PAL Increase is Allowed if the increased emissions can not be accommodated under the PAL, even if all significant and major emissions units were to meet a BACT level of control.
- Emissions units causing the need for an increase (modified or new units) must go through major NSR.
- New PAL based on sum of:
  - Baseline actual emissions of small emissions units;
  - Baseline actual emissions of significant and major emissions units assuming a BACT level of control; and,
  - Allowable emissions of new or modified emissions units.

PAL TERMINATION REQUIREMENTS

- Within 6-18 months before PAL expiration, the source shall submit a proposed allocation of the PAL to “divide” the PAL cap among existing emissions units.
- The Regulatory Authority shall decide whether and how the PAL will be distributed and issue a revised permit incorporating allowable emission limits for each emissions unit.
- Any subsequent physical or operational change at the source will be subject to major NSR review.

TITLE V

- The terms and conditions of an approved PAL become Title V applicable requirements
- A semi-annual emissions report is required
- If the initial Title V permit has not been issued, the PAL permit would be incorporated during the initial issuance of the permit.
- If the initial Title V permit has been issued, the PAL permit could be incorporated into the Title V concurrently with the PAL permitting process.

NSR REFORM RULE - SUMMARY

- Actual-to-Projected Actual Test. Sources can to calculate the emissions associated with a modification as the difference between exiting actual emissions and projected actual emissions (A2A).
- Plant-wide Applicability Limit (PAL). Sources that agree to operate within facility wide emissions caps will be given the flexibility to modify their operations without undergoing NSR.

NSR REFORM RULE - SUMMARY

- Clean Unit Exemption allows emission units that install BACT/LAER emission control equipment to make physical or operational changes without triggering NSR.
  - The exclusion is only applicable if the changes to the emissions unit do not alter the physical or operational characteristics that formed the basis of the BACT or LAER determination.
- Pollution Control Projects (PCP). Physical and operational changes that have a net environmental benefit can be installed without triggering NSR permitting requirements.

REFORM RULE INTEGRATION INTO STATE PERMITTING PROGRAM

- Applicability – Utah Rule Exempt Small Sources but does not exempt modifications at a source.
- Significant Levels are not defined in the Utah Rules
  - Excludes the possibility of a State PAL Program
  - Excludes the possibility of Applicability exemptions

REFORM RULE INTEGRATION INTO STATE PERMITTING PROGRAM

- Pollution Control Projects – Utah Rules Require an Approval Order for any project that will cause an increase in emissions.
  - To insure that changes at a source do not conflict with existing permit conditions
  - To insure that compliance inspections are based on current conditions at the source
  - To insure that all modifications that increase emissions have a State BACT review.

REFORM RULE INTEGRATION INTO STATE PERMITTING PROGRAM

- Reduction in Air Contaminants.
  - The owner or operator of a stationary source of air contaminants that reduces or eliminates air contaminants by installing controls, changing fuels, or by changing the process of the source is exempt from the approval order requirements